

Arizona's Mpox (Monkeypox) Outbreak

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Irene Ruberto, PhD
Vector-borne and Zoonotic
Disease Program Manager
vbzd@azdhs.gov

Dana Goodloe
Bureau of Immunization Services
Chief



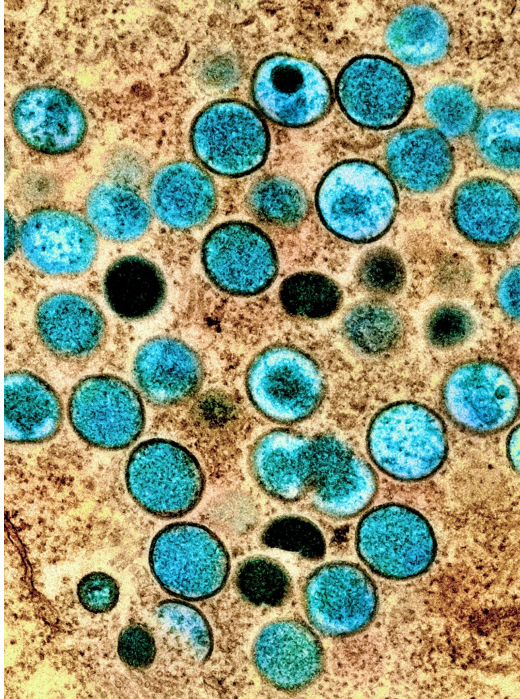
ARIZONA DEPARTMENT
OF HEALTH SERVICES

Presentation Overview

- Mpox virus & disease
- Disease transmission & prevention
- Mpox cases in Arizona
- Vaccine and treatment options
- ADHS mpox response



What is Mpox (Monkeypox)?



- **Mpox** virus belongs to the *Orthopoxvirus* genus which includes **variola virus** (the cause of smallpox, but smallpox spreads more easily and is more severe)
- Mpox virus is endemic in parts of **Central and West Africa**, linked to exposure to **infected animals. Several animal species (like rodents)** can be infected, but the name comes from when it was first discovered, in 1958, in colonies of monkeys kept for research.
- Mpox is **not related to chickenpox** (cause by the varicella-zoster virus), though both result in skin rashes but chickenpox spreads more easily.

Mpox Clinical Signs and Symptoms

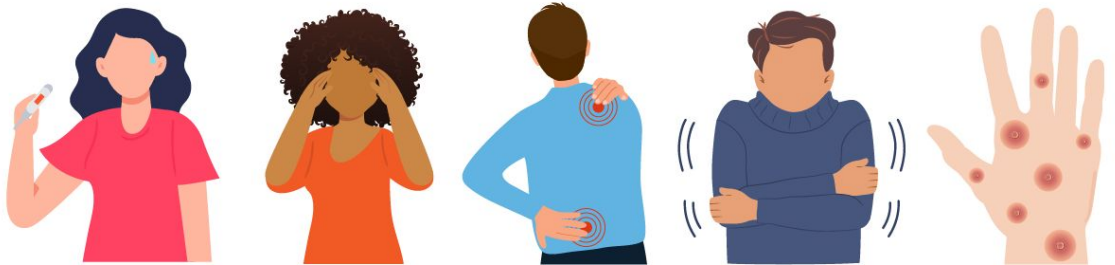
People with mpox get a **rash** that may be located

- on or near the **genitals**
- on other areas like **arms, face and legs**

Other symptoms of mpox can include:

Fever, headache, muscle aches and backache, chills, swollen lymph nodes, respiratory symptoms (e.g. sore throat, nasal congestion, or cough).

These symptoms can occur before rash but may occur after rash or not be present at all. The illness typically lasts **2-4 weeks**. The incubation period is **3-17 days**.



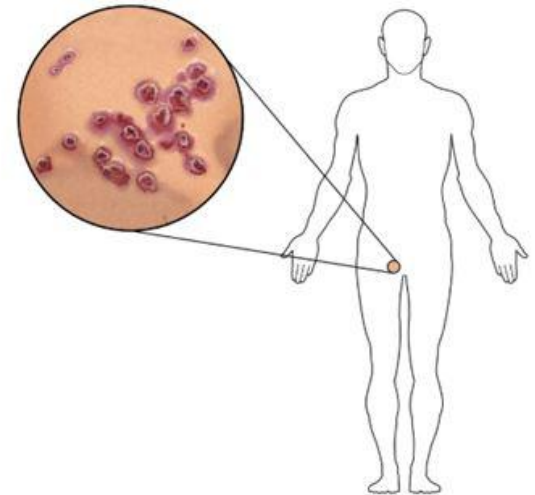
Mpox Rash

A **new maculo-papular rash** that develops into **vesicles** and then **pustules**. Lesions may be deep-seated, firm, well-circumscribed and **umbilicated**.

The rash may:

- Appear anywhere on the body, including palms, soles and anogenital region
- Be localized to a specific body site or diffuse
- Be the only symptom people experience
- Be painful, painless, or itchy

Patients may present with anorectal pain, rectal bleeding, or tenesmus in association with visible perianal skin lesions and proctitis.



<https://www.cdc.gov/poxvirus/mpox/pdf/mpx-clinician-what-to-do.pdf>

Mpox Rash

Key Characteristics of Monkeypox Rash

Crusted pustules



Papule



Pustules



Deep-seated pustules



More Monkeypox Rash Photos

Photo Credit: NHS England High Consequence Infectious Diseases Network

Pustule



Papules



Pustule



Macules



Umbilicated

The evolution of lesions progresses through four stages:

1. **Macular** (flat),
2. **Papular** (raised),
3. **Vesicular** (raised and filled with clear fluid)
4. **Pustular** (filled with opaque fluid) – sharply raised, usually round, and firm to the touch (**deep seated**)

Finally, lesions typically develop a depression in the center (**umbilication**).

By the end of the second week, pustules have **crusted** and scabbed over.

Mpox Transmission

From People:

- **Skin-to-skin contact with the infectious rash, scabs, or body fluids**
- Contact with respiratory secretions (prolonged face-to-face contact) (*low risk*)

From Objects:

- Touching items (such as clothing or linens) that previously touched the infectious rash or body fluids (*low risk*)

The vast majority of the current cases reported **close intimate contact** during the 3 weeks before symptom onset.



Mpox Transmission

A person with mpox can spread it to others from the time **symptoms start until the rash has fully healed** and a fresh layer of skin has formed.

New data show that some people can spread mpox to others from **1-4 days before their symptoms appear**.

There is currently no evidence showing that people who never develop symptoms have spread the virus to someone else.



What to do if sick

- Use gauze or bandages to **cover the rash** to limit spread to others and to the environment.
- **Don't lance (pop)** or scratch lesions from the rash. *-This can spread the virus and cause more lesions.*
- **Do not shave** the area with the rash until the scabs have fallen off and a new layer of skin has formed. *-This can spread the virus and cause more lesions.*
- Keep skin lesions/rash clean and dry when not showering or bathing.
- **Wash hands often** with soap and water or use an alcohol-based hand sanitizer, especially after direct contact with the rash.
- Wear a well-fitting mask around other people until the rash and all other symptoms have resolved.



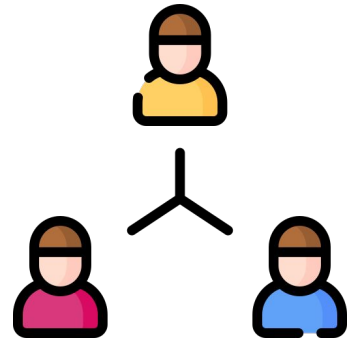
Notifying the close contacts

A **close contact** is anyone who was exposed to someone with mpox symptoms through:

- Having **sex**
- Touching or coming in **close contact** with the rash of a person with mpox.
- Being hugged, cuddled, kissed, or having other **prolonged skin-to-skin contact**.
- Sharing cups, utensils, towels, clothing, bedding, blankets, or other personal objects and materials used by someone with mpox.

If you have been diagnosed with mpox, it's important to **notify your close contacts** that they may have been exposed to mpox as soon as possible, so they can:

- **Watch for signs** and symptoms for 21 days,
- Get vaccinated (if exposed less than 14 days ago, ideally within 4 days of exposure)
- Get tested, and isolate if they have symptoms.

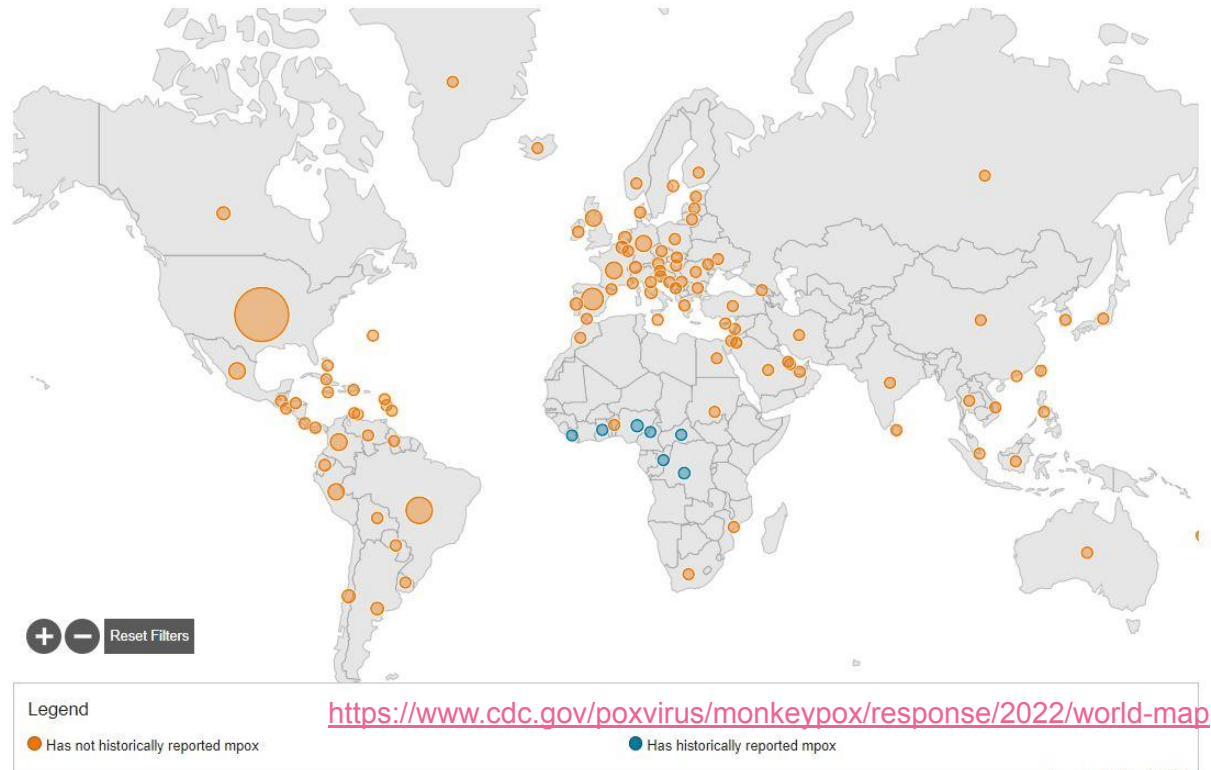


Mpox 2022 Case Counts (as of 4.4.23)

86,746 cases globally
30,286 US Cases
38 US deaths

The WHO declared a public health emergency of international concern on 7/23/22.

The White House declared a public health emergency on 8/4/2022.



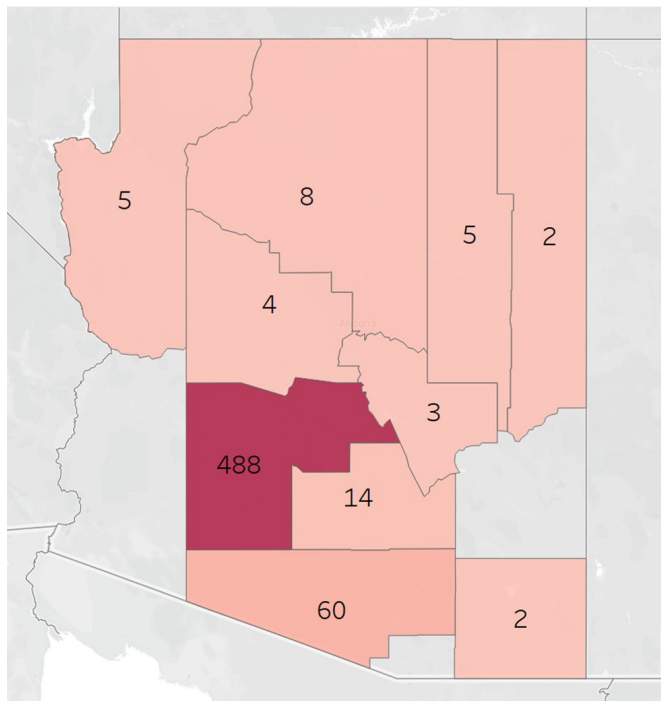
Mpox 2022 Case Counts (as of 4.4.23)

591 AZ cases

0 deaths

83% in Maricopa County

10% in Pima County



Source: CDC

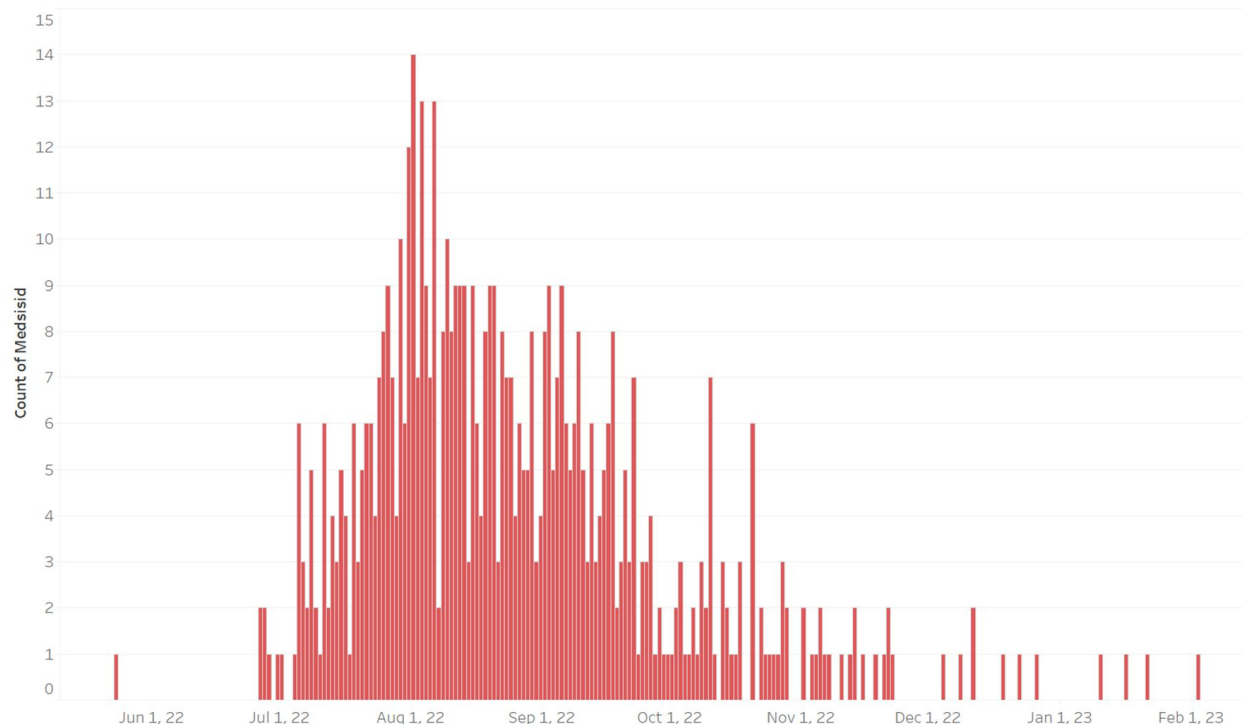


Mpox 2022 Case Counts

Peak day: Aug 1st, 2022
(14 cases)

Peak week: July 31st 2022
(75 cases)

Peak month: Aug
(226 cases)

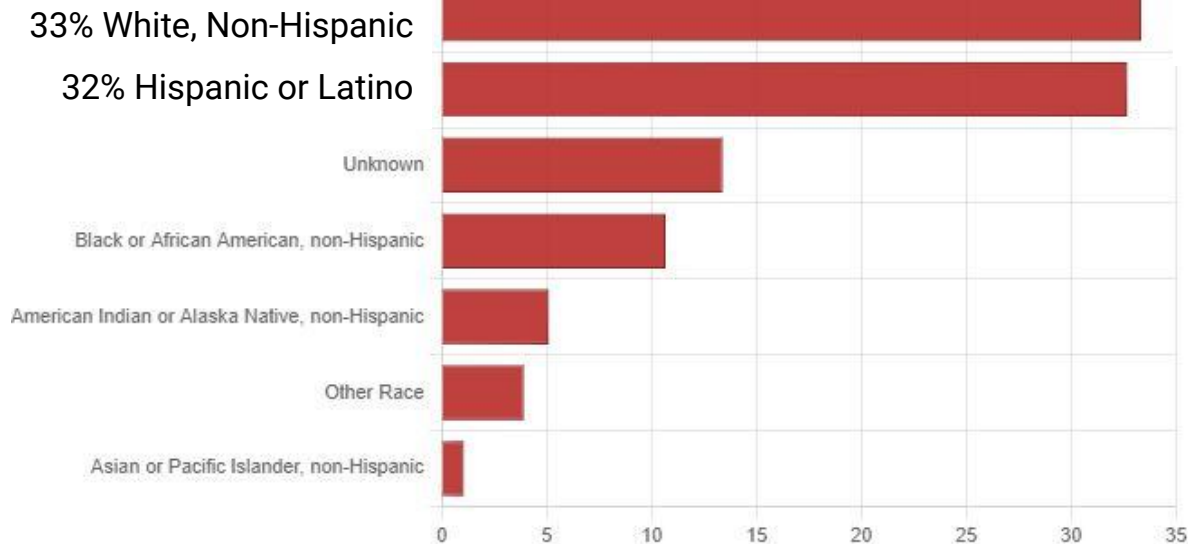


The plot of count of Mdsisid for Dtevent Day. The data is filtered on Recclas, which keeps CONFIRMED and PROBABLE.



Mpox 2022 Case Counts

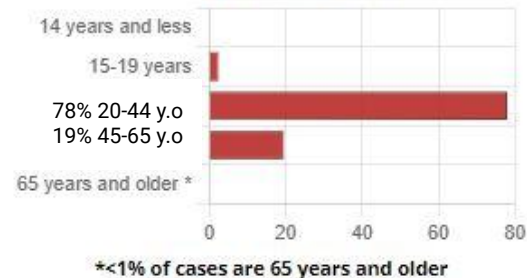
Cases by Race/Ethnicity



Cases by Sex at Birth



Cases by Age Group



<https://www.azdhs.gov/preparedness/epidemiology-disease-control/mpox/dashboard/>



Mpox 2022 Cases

90% are MSM

75% reported sexual/close contact during the incubation period

~3% HIV+

2.6% other immunocompromised conditions



Mpox Vaccination



Source: CDC

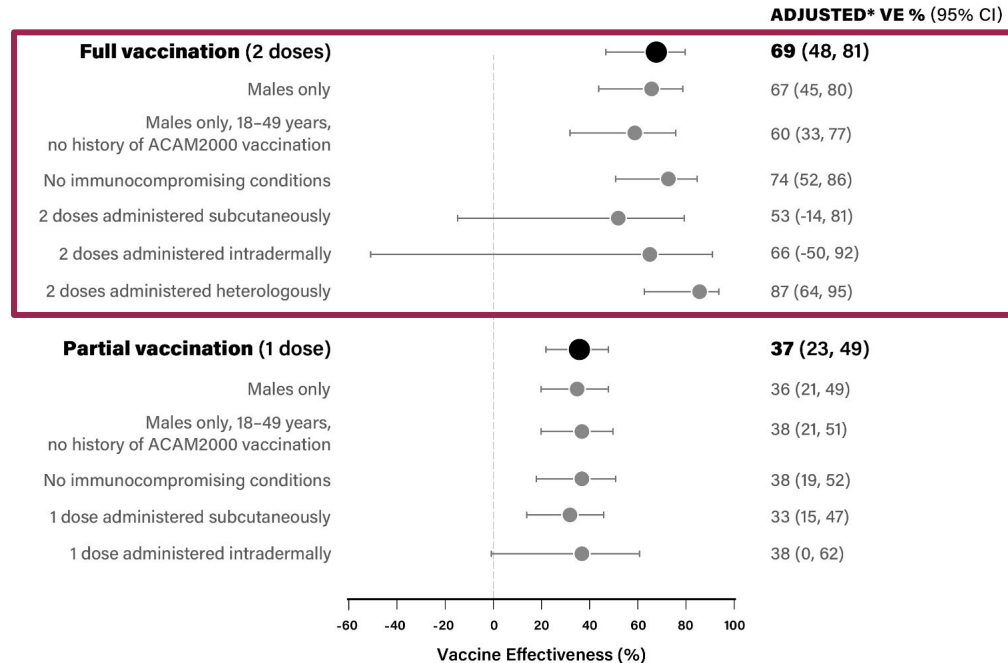
- **JYNNEOS** (2 shots, 4 weeks apart).
- The vaccine should **not be given to symptomatic individuals**. The vaccine is not meant to be used for treatment.
 - By subcutaneous injection in individuals younger than 18 years of age
 - By intradermal injection in individuals 18 years of age and older
- CDC recommends vaccination for people who have been **exposed** to mpox and people who are at **higher risk** of severe disease, including including, but not limited to, people with human immunodeficiency virus (HIV) infection or other immunocompromising conditions
- If administered, it is recommended that the vaccine be given **within 4 days** from the date of exposure for the best chance to prevent onset of mpox illness.
- Arizona and the CDC **do not recommend widespread mpox vaccination for the general public** at this time.



JYNNEOS Effectiveness

JYNNEOS vaccine is effective at reducing the risk of mpox disease, with **two doses (69 VE %)** providing the best protection, regardless of how the vaccine was administered.

Preliminary vaccine effectiveness (VE) estimates against medically attended mpox disease



*Vaccine effectiveness estimates were adjusted for age, race/ethnicity, social vulnerability index, and immunocompromising conditions. Cases and controls were matched on week of index event, HHS region, and gender identity.

Source:

<https://www.cdc.gov/poxvirus/mpox/cases-data/JYNNEOS-vaccine-effectiveness.html>

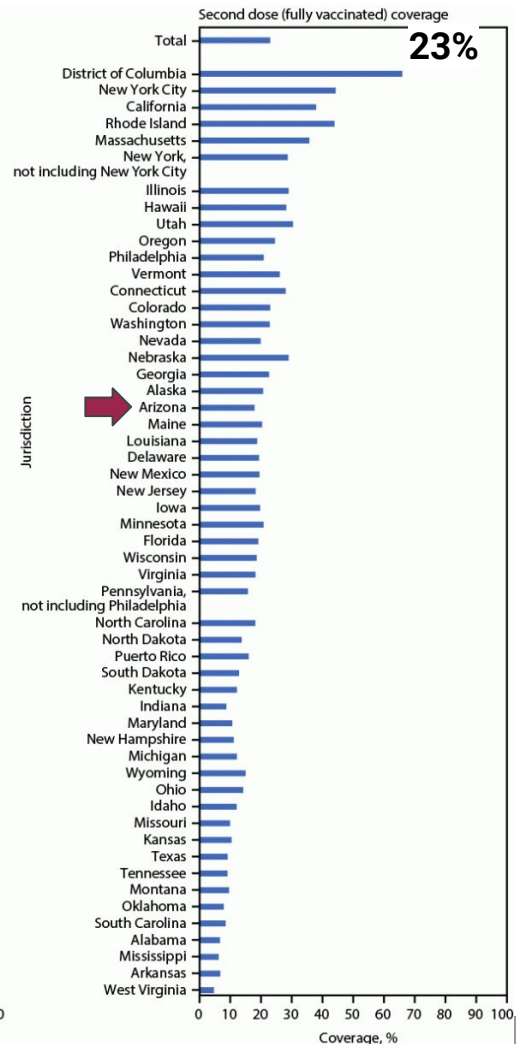
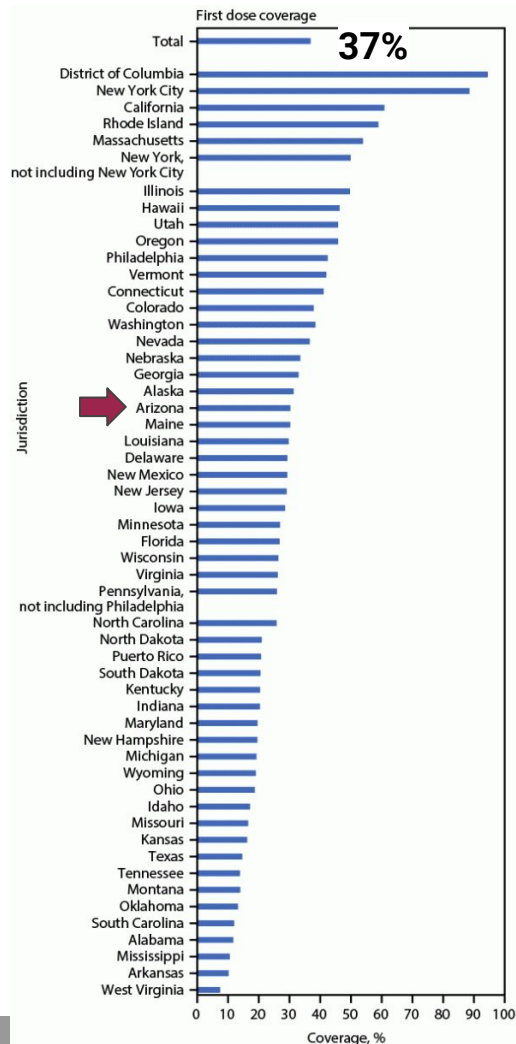


JYNNEOS Coverage

Despite administration of >1 million vaccine doses, only **23%** of the at-risk population has been **fully vaccinated**.

Targeted outreach and continued access to and availability of mpox vaccines to persons at risk is important to help prevent and minimize the impact of a resurgence of mpox.

Owens LE, Currie DW, Kramarow EA, et al.
JYNNEOS Vaccination Coverage Among Persons
at Risk for Mpox — United States, May 22,
2022–January 31, 2023. MMWR Morb Mortal
Wkly Rep 2023;72:342–347. DOI:
<http://dx.doi.org/10.15585/mmwr.mm7213a4>



Mpox Treatment

- Most people with mpox recover fully within 2 to 4 weeks without the need for treatment.
- The antiviral drug **tecovirimat** (**TPOXX**) was developed to fight **smallpox** but the FDA allows it to be used to treat monkeypox during an outbreak under the **expanded access investigational new drug (EA-IND)**.
- TPOXX may be recommended for people:
 - With **severe disease**
 - Who are more likely to get severely ill, like patients with weakened immune systems, pediatric patients, pregnant women, patients with a history of atopic dermatitis, etc.
- TPOXX is primarily available as an oral capsule. IV form is available if circumstances require it.



Mpox ADHS Response

Numerous ADHS Offices were involved in the mpox response to:

- Perform testing at the Arizona State Public Health Lab (ASPHL)
- Dissemination of CDC guidance to local jurisdictions (BIDS)
- Data management and reporting to CDC (Business Intelligence Office)
- ADHS Mpox Data dashboard (BIDS)
- TPOXX distribution (Dr. Raman and team)
- Interview script and assistance (Rapid Response team)
- JYNNEOS distribution (AIPO)
- ADHS website and other communications (ADHS Comms team)
- Wastewater mpox surveillance
- etc...

HEALTH

Arizona reports its first 'probable' monkeypox case in Maricopa County



Stephanie Innes
Arizona Republic

Published 1:04 p.m. MT June 7, 2022 | Updated 11:55 a.m. MT June 8, 2022

[View Comments](#)



Jynneos VS ACAM 2000

Only 2 options and one was a lousy option no one wanted to engage in

Extremely limited supply of Jynneos

Significant challenges associated with ACAM 2000 Administration

- Lack of familiarity with HOW TO do it AND
- Risk of spreading infection to medical staff but also close contacts

Demand was starting to grow really quickly! Access to vaccine was very limited



Followed CDC ACIP Recommendations on eligibility

CDC ACIP defined who was eligible and when

- We were in regular contact with them and encouraged moving to the next phase(s) ASAP

VERY few known cases in earliest days

- Media played a role in identifying/reporting positive cases
- Post-exposure and CLOSE contacts only eligible initially (very small supply)
- Engaged with ALHOA to monitor cases/exposures

More media=more awareness=more identified cases



How we got Jynneos where it was most needed

- A brand new way of ordering/distributing vaccine-SNS and HPOP
- Extremely limited supply-no provided ancillary supplies
 - A non-traditional methodology for vaccine administration (ID-really unfamiliar)
 - With the switch to ID the SNS REDUCED the number of doses
- Incredible increasing demand
- We used the systems that we know, what is most familiar, everywhere that we could
- Counties Hub and Spoke * most cases were in Maricopa and Pima Counties
- Contract to move vaccines between counties as needed
- ALHOA for communication and federal reporting

SIMPLIFY!!!!



Where we are now?

Vaccines are readily available

- Sustained Hub and Spoke model
- Contract for transport to spokes still in place
- Ordering and reporting still in HPOP weekly
- Can be administered SubQ or ID

Demand is VERY low at this time



Resources

[ADHS MPOX Website](#)

[CDC About Monkeypox](#)

[CDC 2022 US Monkeypox Outbreak](#)

[CDC 2022 Monkeypox Outbreak Global Map](#)

[CDC Monkeypox FAQs](#)

[CDC Monkeypox Prevention](#)

[CDC Monkeypox Signs and Symptoms](#)

[CDC Monkeypox Clinical Recognition](#)

[CDC Isolation and Prevention Practices for People with Monkeypox](#)

[CDC How It Spreads](#)

[CDC Clinician Outreach and Communication Activity \(COCA\) Call/Webinar 6-30-22](#)

[WHO Monkeypox Quick Facts and Information](#)

[CDC Epidemiologic and Clinical Characteristics of Monkeypox Cases – United States, May 17–July 22, 2022](#)

[Cleveland Clinic on Monkeypox](#)



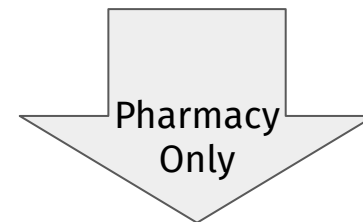


Thank you!

Questions?

Vector-borne and Zoonotic Disease Team: VBZD@azdhs.gov

Continuing Education Credits 4/20/23



<https://www.surveymonkey.com/r/YH2CNPH>

- Follow the QR code/Link to receive CEs for this session
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- Go to conference app or program for more information

Pharmacist CE claim form: 2023
Annual ADHS Arizona
Immunization Conference



<https://forms.office.com/r/dCVCcNUW2F>